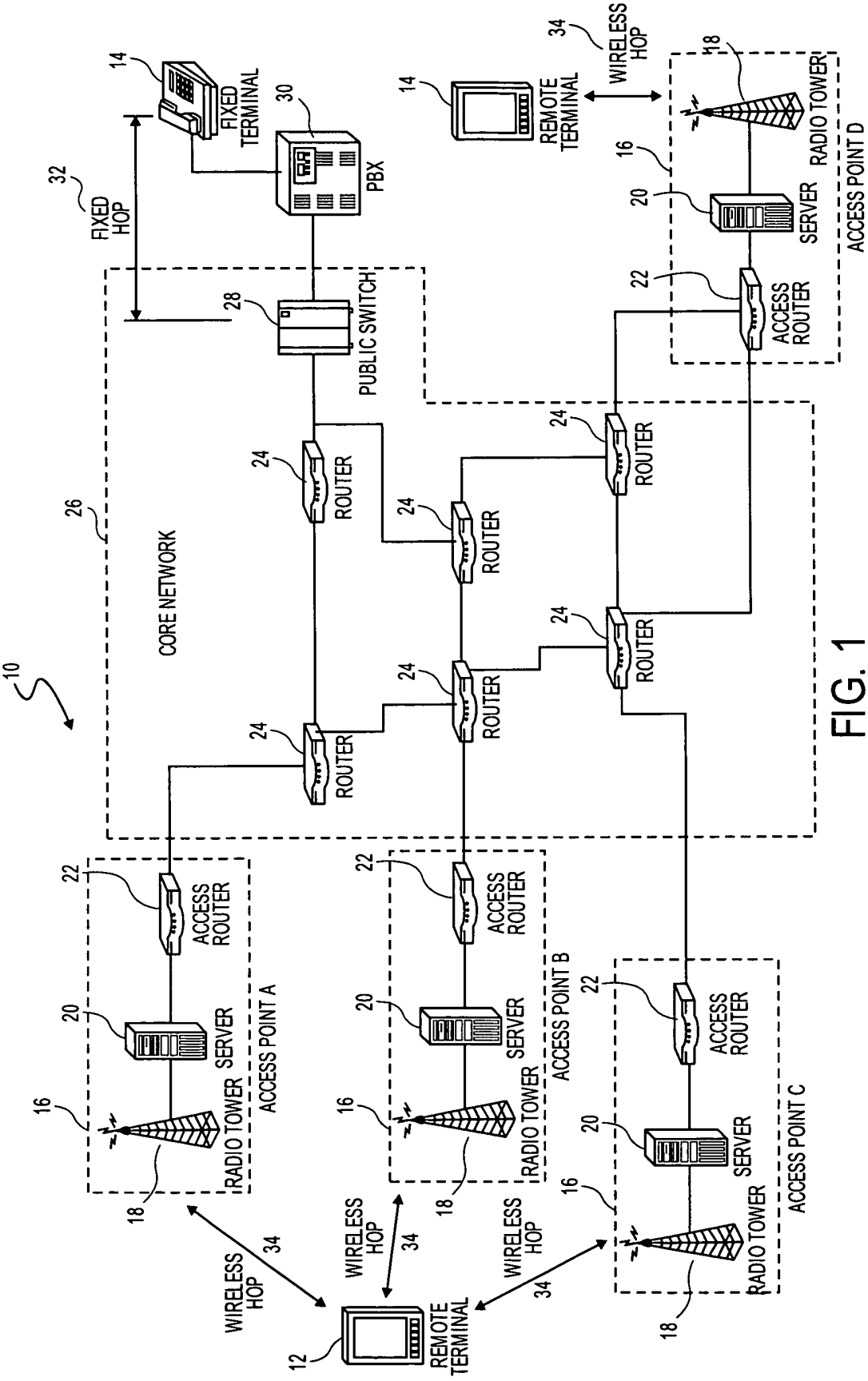

FIG. 1

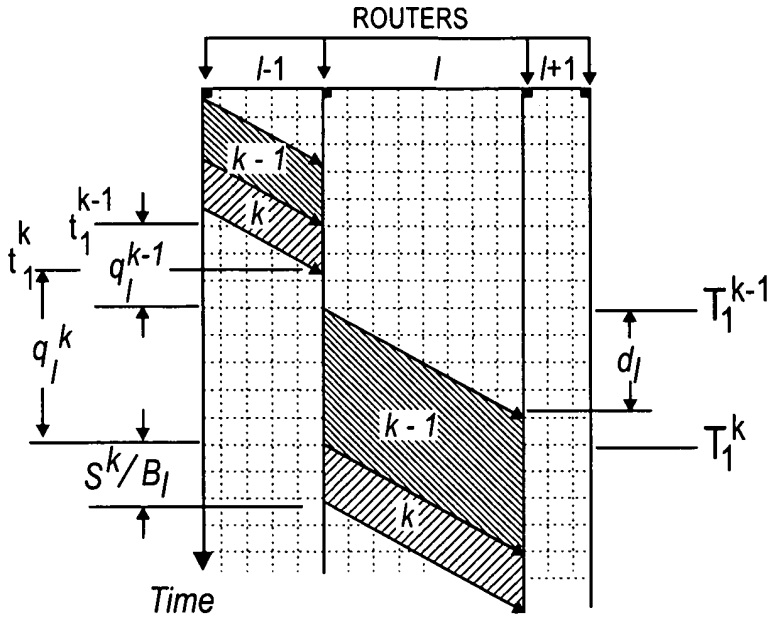
ROUTERS
l-1
l
l+1
k - 1
k
k-1
t1
k
t1
q_l^{k-1}
q_l^k
S^k/B_l
k - 1
k
T_1^{k-1}
d_l
T_1^k
Time

FIG. 2

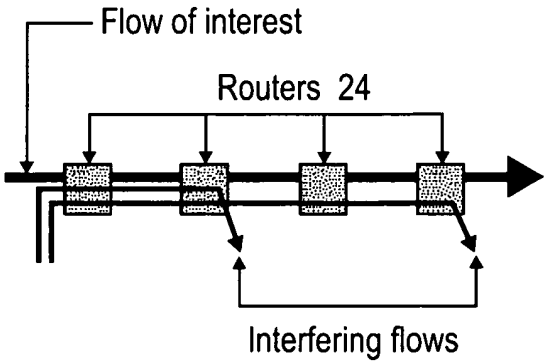
Flow of interest
Routers 24
Interfering flows

FIG. 3

Probe 1		Probe 2		Routers	
Field 1	Field 2	Field 3	Field 4	Field 5	Field 6
$\sum_{i=0}^{l-1} q_i^{probe_1}$	Max: $\hat{q}_i^{voice} + s^{probe_1} / B_i$ i=0, ..., l-1	$\sum_{i=0}^{l-1} q_i^{probe_2}$	Max: $\hat{q}_i^{voice} + s^{probe_2} / B_i$ i=0, ..., l-1	$\sum_{i=0}^{l-1} \hat{q}_i^{voice}$	$\sum_{i=1}^{l-1} \hat{\Delta} q_i^{voice}$

FIG. 4

Router (l)			
Forward	$\hat{q}_l^{voice}$	$q_{l\,previous}^{voice}$	$\hat{\Delta} q_i^{voice}$
Reverse	$\hat{q}_l^{voice}$	$q_{l\,previous}^{voice}$	$\hat{\Delta} q_i^{voice}$

FIG. 5

	Probe Queueing Delay	Transmission Delay
Probe 1	$q_l^{probe_1}$	(s^{probe_1} / B_l)
Probe 2	$q_l^{probe_2}$	(s^{probe_2} / B_l)

FIG. 6

	Inferred From Probe 1		Inferred From Probe 2		Network	Network
	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6
Forward Collector	$\sum_{i=0}^{l-1} q_i^{probe_1}$	Max: $\hat{q}_i^{voice} + s^{probe_1} / B_i$ i=0, ..., l-1	$\sum_{i=0}^{l-1} q_i^{probe_2}$	Max: $\hat{q}_i^{voice} + s^{probe_2} / B_i$ i=0, ..., l-1	$\sum_{i=0}^{l-1} \hat{q}_i^{voice}$	$\sum_{i=0}^{l-1} \hat{\Delta} q_i^{voice}$
Reverse Collector	$\sum_{i=0}^{l-1} q_i^{probe_1}$	Max: $\hat{q}_i^{voice} + s^{probe_1} / B_i$ i=0, ..., l-1	$\sum_{i=0}^{l-1} q_i^{probe_2}$	Max: $\hat{q}_i^{voice} + s^{probe_2} / B_i$ i=0, ..., l-1	$\sum_{i=0}^{l-1} \hat{q}_i^{voice}$	$\sum_{i=0}^{l-1} \hat{\Delta} q_i^{voice}$

FIG. 7

	Probe 1	Probe 2
Departure Time (From AR)	$T_{AR}^{probe_1}$	$T_{AR}^{probe_2}$
RTT (Round-Trip Time)	RRT_{probe_1}	RRT_{probe_2}
Arrival Time (At Correspondent Node)	$t_{CN}^{probe_1}$	$t_{CN}^{probe_2}$
Departure Time (From Correspondent Node)	$T_{CN}^{probe_1}$	$T_{CN}^{probe_2}$
Arrival Time (At AR)	$t_{AR}^{probe_1}$	$t_{AR}^{probe_2}$

FIG. 8

Delay (Δ)	$\tau_{total} = \tau_0 + \tau_1 + ... + \tau_{l-1}$
Jitter ($\Delta\tau$)	$\Delta\tau_{total} = \sqrt{(\Delta\tau_0)^2 + (\Delta\tau_1)^2 + ... + (\Delta\tau_{l-1})^2}$
Bandwidth (B)	$B_{total} = \{\min(B_i); i = 0, ..., (l-1)\}$
Packet Loss (L)	$L_{total} = 1 - [(1 - L_0) \times (1 - L_1) \times ... \times (1 - L_{l-1})]$

FIG. 9

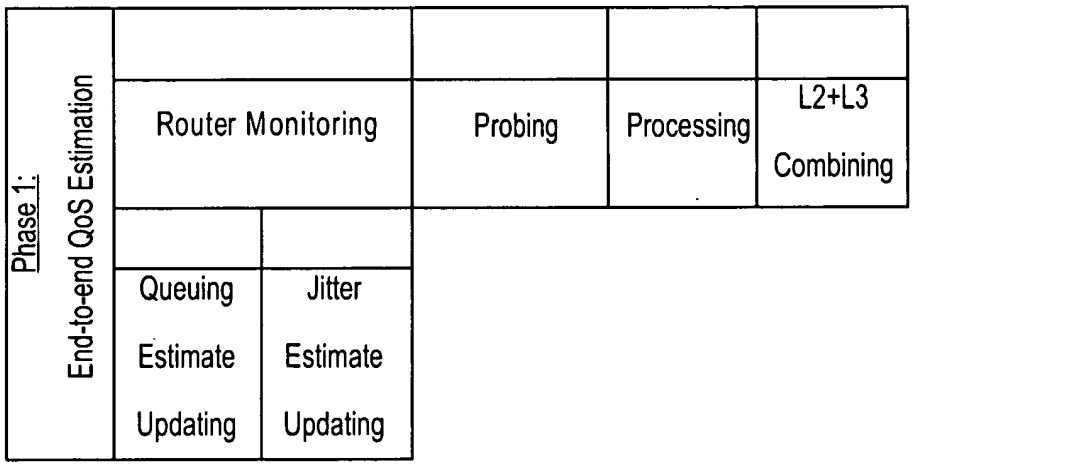

FIG. 10